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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,539	04/12/2006	Marco Altmayer	12810-00234-US	1665
23416 7590 03/02/2007 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899			EXAMINER NAGUBANDI, LALITHA	
			ART UNIT	PAPER NUMBER
			1621	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/02/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	Application No. 10/575,539	Applicant(s) ALTMAYER ET AL.	
	Examiner Lalitha Nagubandi	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/12/06</u> .   | 6) <input type="checkbox"/> Other: _____                          |

***Detailed Action***

***Status of Claims***

Claims 1-6 are currently pending. Claims 1-8 are considered for examination in this office Action.

***Specification***

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Priority***

This application is a 371 of PCT/EP04/11521, dated October 14<sup>th</sup>, 2004, which claims priority to German application no. 10349249.6 dated October 20<sup>th</sup>, 2003.

***Information Disclosure Statement***

Receipt of the information Disclosure Statement filed on 04/12/2006 is acknowledged and has been considered and made of record.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) that forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

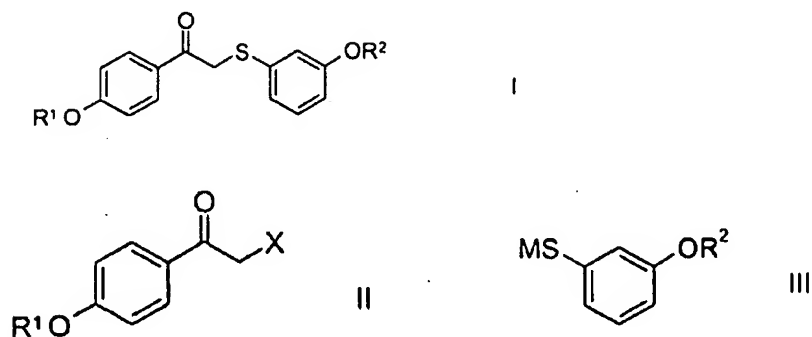
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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Douglas et al (WO 02/42261 A2), and Kim et al (Tetrahedron Letters 40 (1999) 2909-2912).

Applicants claim a process for preparing  $\alpha$ -(3-arylthio)acetophenones of the general formula I by coupling compounds III and II. Further, the process also embodies the preparation of thiolate of the general formula III is prepared by reacting the appropriate thiol with sodium methoxide.



**Determination of Scope and content of the Prior Art (MPEP§2141.01)**

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Douglas et al teach (see page 2 lines 5-15 and page 3 lines 5- 15, WO 02/42261 A2) (3-arylthio) acetophenone by coupling the thiol and the bromo acetophenone of the formula II in presence of a base like pyridine or an alcoholic potassium hydroxide.

Kim et al teach (see page 2911, Tetrahedron Letters 40 (1999) 2909-2912), the coupling reaction to the desired product in presence of potassium hydroxide.

**Ascertainment of the difference between the Prior Art and Claims (MPEP §2141.02)**

The difference between the instant claims , Douglas et al and Kim et al is that the instant process requires thiolate instead of free thiol for the coupling reaction.

Douglas teaches the use of pyridine or alcoholic potassium hydroxide and does not teach the isolation of the thiolate ion during prior to the coupling process.

Kim teaches the use of potassium hydroxide but does not teach the isolation of the thiolate ion, during the process.

**Finding of prima facie obviousness – rational and motivation (MPEP § 142-2143)**

Accordingly, one of ordinary skill in the art would be motivated to modify the process steps like in the instant application where the thiolate ion is isolated based on the teaching on the prior art at it is understood the use of potassium hydroxide in the reaction generates thiolate ion *insitu* eventhough it is not isolated as embodied in the instant application, which may be necessary as cost effective measure and also to avoid any unwanted side reaction.

Therefore the subject matter as a whole would have been obvious to one of ordinary skill in the art and one would have been motivated to combine and modify the methods cited above at the time of invention, and the ordinary artisan would have had a reasonable expectation of success and hence it is a prima facie obvious.

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***Conclusion***

No claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lalitha Nagubandi whose telephone number is 571 272 7996. The examiner can normally be reached on 6.30am to 3.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K Page can be reached on 571 272 0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lalitha Nagubandi

Patent Examiner

Technology Center 1600

February 20<sup>th</sup>, 2007



Samuel A Barts, Ph.D.

Primary Patent Examiner

Technology Center 1600